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ABSTRACT

This report discusses the conditions for initiating the renaissance of the laboratory schools. These conditions include the discovery of the principle of semi-conductors as electronic amplifiers, new advances in statistical methods of measurement, the development of microteaching, and the use of the accountability movement which in turn provides impetus for competency based teacher education. In order for this resurgence of laboratory schools, three conditions are necessary: a willingness to let go of the past, an analysis of existing resources and capabilities in terms of strengths and weaknesses, and a willingness to experiment to recognize that some new things will fail. (MJM)

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"THE RENAISSANCE OF THE LABORATORY SCHOOLS"

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Beginning in the mid-nineteenth century, the evolution of the laboratory school paralleled the development of the normal school. The purpose and function of the laboratory school were to provide:

1. places in which candidates could practice teach under controlled supervision.
2. an environment in which theory put into practice could be directly observed by the candidates.

At the turn of the century and continuing for three decades, the laboratory schools expanded their functions to include research and experimentation. Simultaneously, the expanding teacher education programs made it virtually impossible for the small laboratory schools to provide qualitative practice teaching experiences for all its candidates. The net result was to resort increasingly to "farming out" the student teachers to the public schools. Also, the need for large sample numbers of pupils to conduct research to obtain reliable data forced researchers to utilize the public schools as well as the laboratory schools. Consequently, by the time of World War II the original role and functions of the laboratory school had been reduced in scope as they were shared with or had been taken over by the public schools. The feasibility of continuing to support the laboratory schools became, more and more, a growing concern of educators and laymen.

Since the end of World War II, laboratory schools have undergone intensive reassessment, reorganization, and in some cases, have been eliminated altogether. During the past twenty-five years, the famous laboratory school at Columbia University closed its doors, as did all laboratory schools within the states of Maryland and Michigan. This trend continues with the recent demise of the campus school at Northern Illinois University.

During this same span of time, however, the seeds were sown for a resurgence of the laboratory schools in fulfilling an important role in teacher preparation and educational research. Today the laboratory schools are on the threshold of a new era, or a period of renaissance, in which they can perform an invaluable function in the education of teachers and in the area of research and experimentation.

Four primary events created the conditions for germinating the seeds of the laboratory school renaissance, as follows:

1. The discovery of the principle of semi-conductors as electronic amplifiers.
2. New advances in statistical methods of measurement.
3. The development of microteaching.
4. The rise of the Accountability Movement which in turn provides impetus for Competency-Based-Teacher-Education programs.

The discovery of the principle of the semi-conductors as amplifiers by Brattain, Bardeen, and Schockley paved the way for rapid advances in electronic technology. The invention of the transistor and the integrated circuit, which stem from the research on semi-conductors as amplifiers, facilitated the development of the computer and video taping equipment. The development of the computer has made it possible to increase man's ability to store and analyze data and to disseminate it in a relatively short span of time. Experiments involving many variables can now be analyzed with a greater degree of control. The development of video taping equipment in small, portable units at relatively low cost has added a new dimension to the process of preparing teachers. The electronic video tape capability adds power and precision to the supervision process, for the teacher candidate can observe his or her own teaching within minutes after the period of instruction for in-depth analysis.

The second condition contributing to the revival of the laboratory schools is the increased sophistication of statistical procedures of measurement. For example, the development of the co-variance analysis formula and regression equations has reduced the dependency of educational researchers on large numbers of subjects to obtain reliable data. It is now possible to conduct research with small sample numbers of pupils within a school and still obtain reliable data for analysis.

Therefore, the laboratory school is once more thrust into an important position in educational research. The creation of the regional laboratories and Research and Development Centers by the U.S.O.E. does not detract from the role of the laboratory schools, but rather complements it. The R & D Centers and regional laboratories were spawned by the very conditions that are leading to a resurgence of the laboratory schools. The laboratory schools have an advantage in that there is a built-in pupil population ranging in age and ability; pupils do not have to be recruited from neighboring schools nor are the researchers obliged to establish working relationships with school districts, as the system already exists within the laboratory schools.

The development of microteaching in the early 1960's is the third condition facilitating the re-emergence of the laboratory schools. Microteaching is a concept involving the reduction of instruction in terms of time and number of pupils. For example, a fifteen minute lesson with a group of five or ten pupils can serve the purposes of researchers and supervisors as well as a lesson lasting an hour with thirty pupils in the class. Microteaching was initially developed as a vehicle for conducting educational research and, shortly afterwards, its value as another tool in teacher education programs became evident. Utilization of microteaching in the Stanford internship program

within a clinical teaching setting prior to the student teaching in the field expanded the dimension of the practical in the program, and enabled the interns to make the transition from the academic to the field a great deal more smoothly.

The fourth development is the movement toward Performance-Based-Teacher-Education programs. The movement is part of a larger one entitled "accountability". The motive force behind the movement is a growing demand for less ambiguity and aimlessness in education, or more clarity and precision about what is being taught and the measurement of the outcomes against identified criteria of performance. The Performance-Based movement has part of its antecedents in the three other conditions described earlier and is a logical outgrowth of educational research and the new uses of microteaching and video taping.

The laboratory schools can perform a vital and unique part in the Performance-Based-Teacher-Education movement because of three features:

1. Geographical Location: Proximity to college personnel and resources enables the laboratory schools to participate in and to respond most readily to the development and testing of Performance-Based protocol materials and assessment instruments. The laboratory schools can also assist in developing and conducting Performance-Based training programs for supervising teachers in the field.

2. Continuity of Program: The laboratory schools, with careful planning and utilization of microteaching and video taping capabilities, can provide greater continuity in the teacher education program, thus making the transition from academic to field phase more smooth for the candidates. A systematic progression of training can be more readily built into a teacher education program with the laboratory schools as an integral part of the process.

3. Control Function of Program: In a Performance-Based-Teacher Education program, it is assumed that candidates will be required to demonstrate competency in instruction at certain intervals within the program. Through the continuous use of microteaching and video taping within a clinical context, coupled with the use of computers, it is now possible for the laboratory schools to exercise a systematic monitoring procedure of each candidate's progress and development in teaching. Candidates who do not achieve minimal competency in prescribed teaching skills can be brought back for remedial training before being allowed to proceed to the next phase of the teacher preparation process.

What has been described in the previous paragraph is not theoretical, but rather represents or is true some of the things initiated in the laboratory schools at Illinois State University in the past year. For example, both the Metcalf Elementary Laboratory School and

the University High Laboratory Schools have initiated microteaching clinics which are included as part of the elementary and secondary teacher preparation programs. Microteaching clinic formats are linked to the methods course in the respective programs, and the teacher candidates go through the microteaching clinical experience the semester prior to student teaching in the field.

Both microteaching clinics operate on a three stage training process as follows:

Stage 1 - Preparation: Planning a fifteen minute lesson incorporating a particular instructional skill or strategy of teaching with clinical supervisor.

Stage 2 - Operation: Teaching the fifteen-minute lesson before five or six laboratory school pupils plus video taping of entire lesson.

Stage 3 - Evaluation: Independent rating of the lesson by the clinical supervisor and student teacher, followed by observation of video tape replay of the lesson. At the conclusion of the replay, the supervisor assists the student teacher in analyzing the instruction. The decision to reteach or go on to next lesson is made by the supervisor at the end of the conference.

Using this basic format, each laboratory school modified its clinic to fit its singular needs and the objectives of the teacher education programs each serves. For example, the microteaching clinic at Metcalf Elementary Laboratory School has three sessions during a

semester. Each session covers a four week period and can process up to 36 students per session or a total of 108 per semester. The ultimate capacity has not been determined, but is anticipated that up to 200 candidates eventually will be put through each semester without sacrificing quality of training.

Within a four week session in the microteaching clinic at Metcalf Elementary School, each candidate must plan and teach a twenty minute diagnostic lesson before a group of six Metcalf intermediate or upper grade level pupils. The diagnostic lesson is video taped, and the candidate views the replay with his clinical supervisor, which is followed by a critique session.

Following the diagnostic lesson, one week is spent on studying, viewing, and discussing the instructional skill of set. Each candidate during that week also prepares a fifteen minute lesson and teaches it before a group of six children. Immediately following the lesson, the clinical supervisor and student teacher write a brief assessment of the lesson. This is followed by viewing the video playback.

At the end of the video tape replay, the clinical supervisor guides the conference through questions and comments. The purpose is to have the student teacher identify the two or three strengths of the lesson and one or two weaknesses. The focal point is to seek relationship between the skill being focused upon and the lesson in terms of facilitating or inhibiting the achievement of the lesson's objectives.

If the clinical supervisor estimates that the student teacher reached the required level of competency for the skill, there is no reteach assignment made, and the candidate proceeds on to the skill of pacing for the second week. The process is the same as in the previous week. It will also be the same for the third skill, closure, during the week after pacing.

At the conclusion of the three weeks of training in the skills of set, pacing, and closure, each student teacher reteaches the same twenty minute lesson that was given in the diagnostic session. Both the original diagnostic lesson and the post clinic lesson are replayed for the student and the clinical supervisor. Through comparisons, the gains in instructional proficiency are identified as well as the areas needing continued practice.

The success of the Metcalf microteaching clinic can be attributed to the following factors:

1. A period of ten months was spent in planning and developing the protocol materials, rating instruments, and the training format.
2. The clinical supervisors had been part of the planning session from the beginning, had developed a shared frame of reference, clarified terminology, and had agreed to adopt a system of supervisory procedures.
3. The microteaching planning committee developed a series of pilot tests using small numbers of student teachers to test

out training protocols, assessment procedures, and to make revisions in the program.

4. The decision to develop an effective program on a small scale first and then increase the clinic's capacity to handle more candidates on a gradual and systematic basis.
5. The decision to concentrate on developing three basic teaching skills in addition to lesson planning rather than to attempt to concentrate on an array of instructional skills.

But the overarching reason for the success of the Metcalf microteaching clinic was the agreement from the beginning that the clinic would be one part of the practice dimension in teacher education. It was never intended to replace student teaching in the field, but rather to be a complementary stage in the gradual process of preparing teachers.

In the case of the microteaching clinic at University High Laboratory School, the intent again was not to supersede or replace the function of student teaching in the field. As with the Metcalf clinic, the purpose of the University High School clinic is to provide more teaching opportunities under systematic procedures of supervision prior to the practice teaching experiences in the field.

Unlike the Metcalf clinic, the University High microteaching clinic was developed in a cooperative venture with the Educational Testing Service of Princeton, New Jersey. The provision of pre-student teaching experiences was dovetailed with an experiment on

a new teaching strategy for conducting discussion on topics selected by the high school pupils during the first week of the fall semester. Five topics were developed into one week mini-courses by the teachers at University High School for the fall semester. Another five topics were developed into mini-courses by the University High School faculty for the spring semester. A total of 240 student teachers were scheduled to participate in the microteaching clinic, 120 per each semester.

For example, the five topics for the mini-courses for the spring semester are as follows:

Witchcraft	- Social Studies
Alternatives to the Draft	- Social Studies
Science Fiction as Literature	- English
Evolution	- Science
Finite Systems	- Math

The format for the University High School microteaching clinic was as follows:

Diagnostic lesson of twenty minutes	- 1 hour
Training in discussion model	- 3 hours
Training in using mini-course material	- 2 hours
Conducting mini-course lesson	- 5 hours
Post-instruction lesson of twenty minutes	- 1 hour

The student teachers for the clinical experiment were recruited from volunteers from the traditional Secondary Education Program at Illinois State University. All volunteers had to complete the requirements established by the Department of Secondary Education before they could participate in the experiment. This procedure insured equivalency of training among all volunteer teachers.

After the training period for all the volunteer teachers, the University High School desisted for one week from teaching the traditional high school subjects; instead, all University High pupils were scheduled to attend the five mini-courses taught by the volunteer student teachers during the week.

Each volunteer teacher instructed a class of twenty-five pupils for an hour period each day for five consecutive days. During part of the last period of the final day an achievement test was administered to the pupils in each of the five topics. All classes were audio tape recorded and supervised by University High faculty members.

The feedback from the student volunteers revealed that the experience was helpful to them in developing a sense of what they could accomplish as teachers. They also stated that they acquired a sensitivity to what the high school pupils were concerned with and how they expressed themselves on the various topics. In almost all cases, the volunteer teachers believed that this type of microteaching clinical experience was of value in the preparation of teachers and should be made part of the regular program.

The examples of the Metcalf and University Schools microteaching clinics served as illustrations of possible ways the laboratory schools can function in teacher educatien programs and in educational research.

The microteaching formats for both laboratory schools are still being revised and modified in the quest for providing the most efficient and effective pre-student teaching experience possible in the

respective teacher education programs. At the present, the faculties are beginning to formulate procedures for developing and testing protocol materials for Performance-Based-Teacher-Education programs.

The potential of the laboratory schools in assisting the teacher education programs in unique ways has been expanded considerably in the past decade. But it remains for the faculties and staff of the laboratory schools to initiate the analysis and planning of the direction and utilization of the laboratory schools in the coming years if a laboratory school renaissance is to become a reality.

If such a resurgence is to come about, it seems that there must be:

1. A willingness to "let go" of the past if another way proves to be better in accomplishing the purpose. For example, video taping of classroom instruction can replace much of the live observation that presently goes on in the laboratory schools. It seems that a great deal of time and energy is expended by the faculty and staff in scheduling live observations. A video tape bank of models of instruction and teaching situations can reduce the amount of effort spent in live observations in permitting time and energy to be expended doing other things in teacher education and experimentation.
2. An analysis of existing resources and capabilities in terms of strengths and weaknesses. The need to determine what

can and cannot be done is essential to the ultimate success of any future program. In the past, laboratory schools attempted to do more than they were capable of doing effectively. In a similar vein, the laboratory schools should consider ways to better coordinate effort and share information possibly through a National Consortium of Laboratory Schools and by expanding the present NALS capabilities.

3. A willingness to experiment and to recognize that some new things will fail. Too often timidity or the fear of failure has inhibited the cause of experimentation and testing out of new ideas. If a renaissance of the laboratory schools is to become a reality, then educators must be willing to risk some possibilities of failures as the price for advancing the cause of teacher education. The focus of effort should be on what might be done better rather than what is already known and accomplished.

For too long, the laboratory schools have been regarded as dinosaurs in education when, in truth, they are eminently suited to the purposes of modern educators in research and particularly to the development of Performance-Based-Teacher-Education programs. Before building new R & D Centers and educational renewal centers, it would be well for educational planners to explore fully the potential of the laboratory schools.